

AMENDMENTS TO THE DRAWINGS

Attached hereto is one (1) sheet of proposed new drawings, which includes Figure 3A. Figure 3A illustrates a front-end rectifier comprised of six (6) Insulated Gate Bipolar Transistors (IGBTs) Q1-Q6, which is co-packaged with a switching device 320 comprised of a seventh (7th) IGBT the configuration in a 7-Pack Intelligent Power Module (IPM) 360.

Formal drawing sheets will be filed in response to the Examiner's approval of these drawing corrections.

Attachment: One (1) Sheet of Proposed New Drawings

AMENDMENTS TO THE SPECIFICATION

Please replace paragraph 0010 with the following:

--[0010] A more complete understanding of the present invention will become apparent from the following description taken in conjunction with the accompanying drawings, wherein:

FIG. 1 is a schematic illustration of a conventional soft-start system;

FIG. 2 is a schematic illustration of a soft-start system in accordance with one aspect of the invention;

FIG. 2A is a schematic illustration of a soft-start system in which the switching device includes a Bipolar Junction Transistor (BJT) in accordance with an exemplary embodiment of the present invention;

FIG. 2B is an illustration of a hysteresis control of the switching device;

FIG. 3 is a schematic illustration of a soft-start system in accordance with another aspect of the invention;

FIG. 3A is a schematic illustration of a front-end rectifier comprised of Insulated Gate Bipolar Transistors (IGBTs) co-packaged with the switching device in an Intelligent Power Module (IPM) in accordance with an exemplary embodiment of the present invention; and

FIG. 4 is an illustration of test results of a soft-start system in accordance with the invention.--

Please replace paragraph 0018 with the following:

--[0018] Referring to Fig. 3, the rectifier can be formed of six co-packaged IGBTs as is well known in the art. ~~Therefore, the rectifier configuration is not shown and will not be described further.~~ The switching device 320 is a seventh IGBT. The rectifier and the switching device 320 can be contained in a single package 360. For example, the IGBTs of the rectifier and the switching device 320 can be contained in an Intelligent Power Module (IPM) 360, as shown. Such a configuration is illustrated in more detail in Fig. 3A, in which the rectifier includes the arrangement of IGBTs Q1-Q6 in and diodes D1-D6, which are co-packaged with the switching device 320 and diodes 322 and 324. IPMs offer a low-cost integrated solution for power systems. The IPM 360 can comprise a three-phase IGBT bridge and IGBT switching device 320 along with the associated free wheeling diodes, such as diode 322, driving circuits for driving the IGBTs, a blocking diode (not shown) and external interface devices for coupling to the triggering circuit 240. The addition of all the necessary support and interface devices into one package along with the power IGBTs greatly reduces design and manufacturing cost and complexity. Additionally, the physical envelope required for the system is also reduced due to the integration of the components, which can be very advantageous especially for size restrictive environments such as electrical systems used in aerospace hardware. Those skilled in the art will

appreciate that many other integrated combinations can be used. For example, the rectifier could be formed of a conventional diode bridge integrated with a switching device 320, such as an IGBT, SCR, MOSFET, and the like.--